The Transportation Concept Report (TCR) for State Route 20 is being updated. A draft of the updated TCR will be available soon.

Contact Nick Deal (530.741.5151) or Karen Peneschi (916.274.0634) for more information.

ROUTE CONCEPT REPORT

STATE ROUTE 20

Caltrans

DEPARTMENT OF TRANSPORTATION • DISTRICT 3

ROUTE CONCEPT REPORT

STATE ROUTE 20

Colusa County PM 0.0/39.3
Sutter County PM 0.0/17.0
Yuba County PM 0.0/21.7
Nevada County PM 0.0/46.1
Placer County PM 0.0/02.6

by
CALTRANS
District 3

July 1989 (Revised)

APPROVAL RECOMMENDED:

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12 July 1989
Date

APPROVED:

Robert O Watkins

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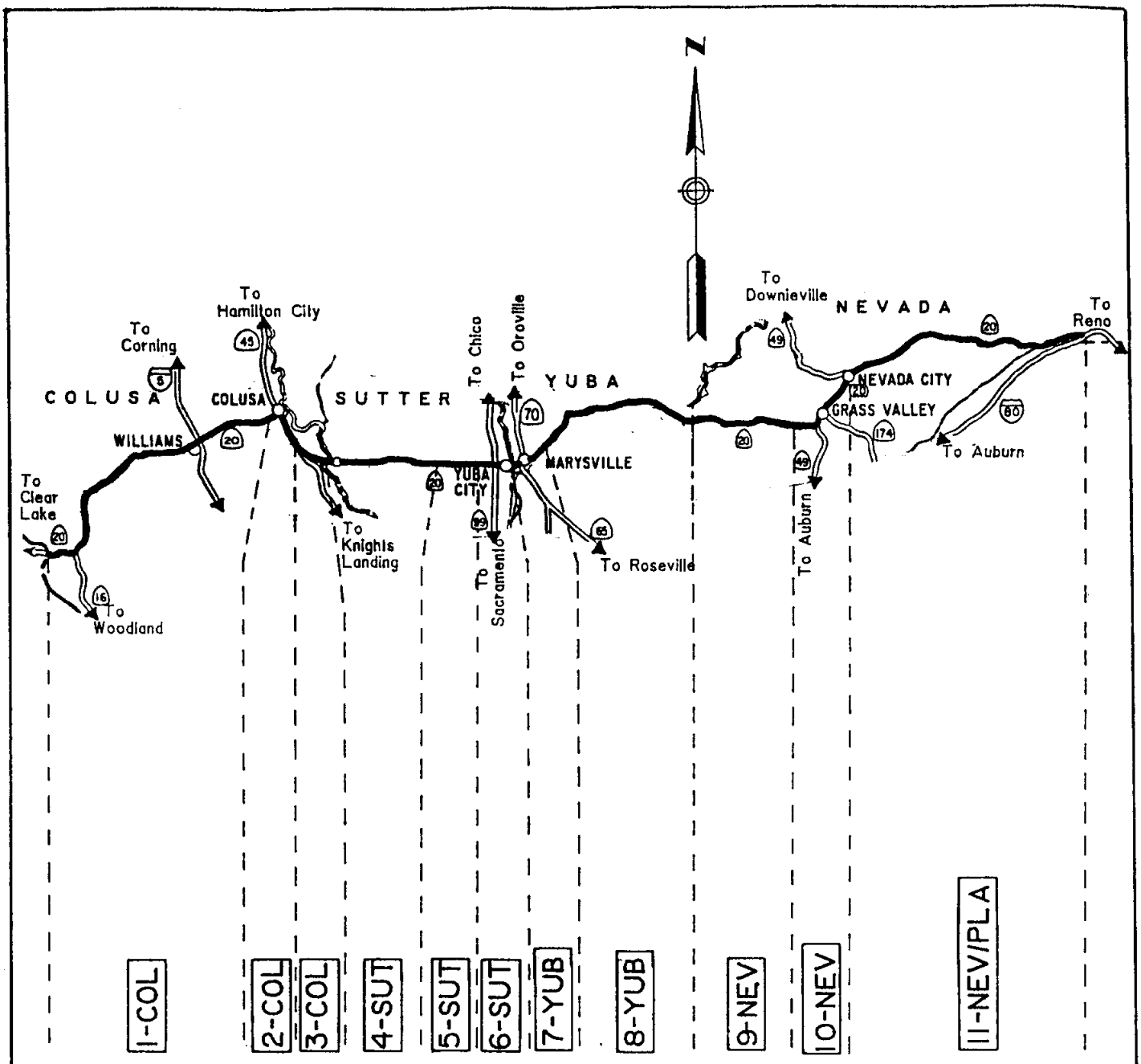
District 3, Marysville

6/12/89
Date



STATE ROUTE 20

ROUTE LOCATION MAP

ROUTE CONCEPT REPORT SUMMARY

State Route 20

Route Description and Purpose

State Route 20 is an "ocean to mountains" route which begins at Route 1 near Fort Bragg and ends at Interstate Route 80 near Emigrant Gap. Within District 3, the route runs 122 miles west to east through Colusa, Sutter, Yuba, Placer and Nevada counties. Route 20 is mainly a two-lane highway that serves regional, commercial, agricultural and recreational traffic and interconnects with major routes such as I-5, 99, 70 and I-80.

Route Concept

Segment	PM/PM	Current Facility	Current LOS	Concept Facility	Concept Los	Ultimate Transportation Corridor
1-Col	0.0/28.7	2-C	C	2-C/P**	D	4E
2-Col	28.9/33.1	2/4-C	D	2-E	D	4E*
3-Col	33.1/39.3	2-C/E	C	2-C/E	D	4E
4-Sut	0.0/9.2	2-C	C	2-C	D	4E
5-Sut	09.2/15.6	4-E	C	4-E	E	4E
6-Sut	15.6/17.0	4/6-C	E	6-C	E	4E*
7-Yub	0.0/3.4	2/4/6-C	F	2/4/6-C	E	4E*
8-Yub	3.4/21.7	2-C/E	D	2-C/E	D	4E
9-Nev	0.0/12.3	2-C/E	D	2-E	D	4E
10-Nev	12.3/17.4	4-F	C	4-F	E	4E*
11-Nev/Pla	17.4/46.1	2-C	D	2-C	D	4E

* Bypass of existing urbanized area
** Conventional/with passing lanes

Concept Rationale

The route concept is based on the importance of maintaining Route 20 at LOS D where possible due to the route's significance as a feeder route for agricultural and commercial trucking connecting Interstates 5, 80 Route 99, and Route 70. In populated urban areas, such as Yuba City/Marysville and Grass Valley/Nevada City, a concept LOS E is realistic considering funding constraints and relative priorities elsewhere on the State highway system.

Segments	Deficiencies	Improvements
1,3,4,8,9 & 11	Lane and shoulder widths not up to statewide standards.	Improve lane and shoulder widths to meet statewide standards.
1,8,9 & 11	Poor sight distance, steep grades, not enough passing opportunities.	Extend or add passing lanes wherever appropriate.

Summary (Continued)

Segments	Deficiencies	Improvements
2	Segments within urbanized with not enough capacity to meet current or future demand	Bypass Colusa
5,6,7	Segments within urbanized with not enough capacity to meet current or future demand.	Construct Route 99/70 Interchange. Provide operational and safety improvements wherever possible. Study feasibility of ultimately bypassing Yuba City/Marysville area.
10	Potential for merging problems at 20/49 East Junction	Study ways to improve Route 20/49 East Junction
4	Inadequate bridge.	Replace or rehabilitate to Statewide standards Sutter Causeway.

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REPORT FIGURES

ROUTE CONCEPT REPORT

Introduction and Planning Intent

The Route Concept Report (RCR) is a planning document which describes the Department's basic approach to development of a given route. Considering reasonable financial constraints and projected travel demand over a 20-year planning period, the RCR defines an appropriate type of facility and level of service for each route. The objective of the effort is to provide a better basis for the development of the State Transportation Improvement Program and for determination of the appropriate concept for future highway projects.

Route Concept Reports are prepared by District staff in cooperation with local and regional agencies. They will be updated as necessary as conditions change or new information is obtained.

Route Concept Reports are a preliminary planning phase that lead to subsequent programming and the project development process. As such, the specific nature of proposed improvements (i.e., roadway width, number of lanes, access control, etc.) may change in later project development stages, with final determinations made during the project report and design phases. Roadway widths, as discussed in Route Concept Reports, are used for the purpose of estimating improvement costs, and may change depending upon operating conditions and design standards at the time of actual project development.

Assumptions

The following assumptions form the basis for the development of Route Concept Reports:

1. The relative importance of State highways in the District can generally be established based on the functional classification of the routes. In general, higher priorities will be given to major improvements on principal arterial routes as compared to minor arterials and collectors.

2. For routes the District can reasonably expect to improve (generally Principal Arterials), realistic concept Level of Service (LOS) must be established for each route in order to have route concepts and route development plans which are possible to achieve, given a forecast of future revenues. A concept LOS is not established on routes which will only be rehabilitated and/or maintained.

3. Level of service and capacity calculations are based on the 1985 Highway Capacity Manual. Previous Route Concept Report level of service and capacity calculations were based on the 1965 Highway Capacity Manual.

4. Determinations of future LOS for the routes in District 3 are based in part upon Statewide and District forecasts of State highway travel developed by Caltrans.

5. Route concepts are generally uniform for an entire route, unless there is a major change in function along the route.

6. Major projects will be developed to meet standards acceptable to the Federal Highway Administration in order to receive Federal funding for projects. Otherwise, a "design exception" will be prepared during the project development process.

7. For all routes, safety projects will be pursued on an on-going basis in order to be responsive to safety problems as they are identified.

ROUTE DESCRIPTION AND PURPOSES

Route 20 is a regionally significant west to east state highway serving northern California. It is an "ocean to mountains" route beginning at Route 1 near Fort Bragg and ending at Route 80 near Emigrant Gap. In District 3 the route runs 122 miles through Colusa, Sutter, Yuba, Placer, and Nevada Counties, from PM 0.0 in Colusa County to PM 2.6 in Placer County. This is a Federal Aid Primary (FAP) Route. It serves regional, commercial, agricultural, commuter, shopping, and recreational traffic, and serves as a major east-west connector to I-5, Route 99, Route 70 and I-80. Of less statewide importance, but of local significance, it connects rural population centers with Routes 16, 45, 49, and 174. The route is classified as a minor arterial, except for a 22-mile section from the Lake/Colusa County line to I-5 and in Yuba City and Marysville, where it is a principal arterial.

The route is predominantly a two-lane conventional facility. There are also short sections of six-lane conventional, two- and four-lane expressway and four-lane freeway, generally limited to four miles or less in length. The expressway sections are located east of Colusa, west of Yuba City, east of Marysville and west of Grass Valley. Between Grass Valley and Nevada City there is a five-mile section of four-lane freeway.

The route serves several different purposes along its length. In the coastal foothills it is primarily used for recreational travel, usually to and from Clear Lake and Fort Bragg and for the transportation of forest products. In the Sacramento Valley it is heavily used for hauling agricultural commodities from the surrounding fields and orchards during harvest season and for transporting agricultural equipment.

Through the town of Colusa the route is "Main Street". In the Yuba City/ Marysville urbanized area, the route is a principal city arterial with continuous strip commercial development and carries local, regional agricultural and recreational traffic. It is not uncommon to see recreational vehicles, passenger cars, farm tractors, and various kinds of trucks together in the traffic mix.

Traveling east through the Sierra foothills the route carries intra-regional traffic and acts as a connector for several small rural communities. In Grass Valley/Nevada City the route serves primarily local and recreational trips. Further east of Nevada City into the mountains a larger percentage of the travel is recreational.

ROUTE CONCEPT RATIONALE

A concept Level of Service (LOS) D is the minimum acceptable LOS for the non-urban portions of the route. It is important to maintain LOS D because of the route's importance as a feeder route for agricultural and commercial trucking going to Interstate 5 and State Route 99, both important economic north-south routes, and to Route 70, an important secondary truck route. Most of the non-urban miles of the route are currently operating at, or slightly above, the concept LOS D. "D" is an realistic level of service for a minor arterial serving sparsely populated rural areas and small population centers, such as Williams, Meridian and the City of Colusa with a population of just over 4,000.

A concept LOS of E is more realistic for Route 20 through both Yuba City/ Marysville and Grass Valley/Nevada City. A lower LOS is realistic in urban areas because of the high cost of improvements to keep a higher LOS given current and projected funding levels, and because of the significance of this route in comparison to others within the District. A higher level of service would be preferable but is not realistic due to these constraints. The four-lane city street portion through the Yuba City-Marysville urbanized area is currently operating at LOS E, with sporadic peaks of LOS F. The Nevada City/Grass Valley portion is operating at LOS C today because it is a four-lane freeway section, but the LOS is expected to deteriorate due to the rapid growth now occurring in the area.

ROUTE CONCEPT

The concept Level of Service (LOS) for the non-urbanized portions of the route is D. In the Yuba City-Marysville urbanized area and Grass Valley-Nevada City urban area, the concept LOS is E because LOS D cannot reasonably be achieved. In fact, with traffic increasing with the area's expanding population and economy, it may be difficult to maintain even that LOS. A Concept LOS of E will not preclude cost effective and necessary safety and operational improvements from being implemented.

SEGMENT ANALYSIS

Colusa-1 (P.M. 0.0-28.9)

Segment 1 of this route begins in District 3 at the Lake/Colusa County line and runs east across Route 5 to the City of Colusa. The route traverses coastal foothills and the Sacramento Valley. The area is rural with extensive agriculture in the Valley.

The highway is two-lane conventional with shoulders varying from 0 to 8 feet in width.

Colusa-1 Land Use

The area surrounding this segment will remain mostly agricultural through the year 2010. The only area on this segment where growth is expected is at the intersection of Highway 20 and Interstate 5 at Williams. Currently, the land north of Highway 20 at the I-5 junction is zoned agricultural and is expected to remain that in the future. The land south of Highway 20 at this junction is zoned for industrial, commercial and urban residential. This area is expected to grow slowly on the east side of I-5.

Colusa-1 Level of Service

	1987	2000	2010
LOS	C	C	D
Concept LOS	D	D	D
AADT	5,800	7,100	8,050

Colusa-2 (P.M. 28.9-33.1)

Segment 2 on Route 20 passes through the City of Colusa, a town of about 4,610 population. Colusa is the County seat and one of the business and service centers for the area. The roadway approaching and leaving the City is generally two-lane with varying shoulder widths. About a mile of this segment is four-lane with parking, serves as "main street" for the city, and provides access to shopping/commercial and service areas. Traffic must slow for a 25 MPH speed zone through town.

Local city traffic and traffic from Route 45 join with Route 20 in the center of Colusa, raising the ADT from 5,200 to 10,200 and reducing the LOS to D.

Colusa-2 Land Use

Colusa will remain the largest community in the county over the next 20 years. Most of the residential growth will take place south of town along Wescott Road, east of town, and west of town between Lurline and Wilson Roads.

Main and Market Streets would remain the focus of commercial activities. Commercial uses may also occur around Fremont and Fifth Streets, north of the Colusa Golf Club, and at Highway 20 and Wilson Road.

Colusa is expected to sustain slow growth over the next 20 years.

Colusa-2 Level of Service

	Current 1987	2000	2010
LOS	D	E	E
Concept LOS	E	E	E
AADT	10,300	12,450	14,100

Colusa-3 & Sutter-4 (P.M. 33.1-39.3/0.0-9.2)

On Segments 3 and 4, from Colusa east across the Sutter Bypass, the character of the route changes back to a rural two-lane conventional facility with a two-mile long two-lane expressway section. Route 45 joins with Route 20 and adds to Route 20 traffic, including a large percentage of agricultural trucks and equipment.

There are two major structures in these segments: the Sacramento River Bridge, joining Colusa and Sutter Counties, and the Sutter causeway. The Sutter causeway is one mile in length, 23 feet wide, and curvilinear with poor sight distance. It is not uncommon during harvest season to have it briefly closed to through traffic while a piece of oversized farm equipment is transported across the structure.

Sutter-5 (P.M. 9.2/15.6)

Segment 5 is a four-lane expressway that goes through a transitional area from agricultural to urbanized approaching Yuba City. This segment ends at the Highway 20/99 junction.

Sutter-5 Land Use

Land use is agricultural for the western half of this segment. The land uses then change to commercial and become more dense approaching the junction of Highway 20 and 99 (Yuba City). Residential development is scattered on both sides of Highway 20 with greater density on the north side. A new shopping center under development at the northeast corner of the Highway 20/99 junction will generate significant volumes of traffic west of the interchange as well. Another site discussed for commercial development is at Walton Avenue. Over the next 20-year period commercial development will intensify along the highway, and growth may move westerly towards Township Road. According to the City of Yuba City, there is sufficient available land to accommodate this growth within the urban area bounded on the west by the City limits. Some development will continue to occur in Tierra Buena to impact City streets. Highway 20 and Highway 99 have become the major arterials for traffic movement in the Yuba City area.

Sutter-5 Level of Service

This segment is controlled by signalized intersections, with the critical intersection being at Highway 99 and Highway 20. Signal timing at the intersections of Highway 20 and Tharp Road, Walton Avenue, and Civic Center Boulevard is being coordinated. To determine level of service on this segment, it is necessary to look at the effective capacity of the critical Highway 99/20 intersection and how it is currently operating and expected to operate in the years 2000 and 2010.

Existing Traffic Volumes and Level of Service

The largest traffic volumes on this segment occur during weekday peak hours of 5-6 P.M., making the weekday peak hour the analysis period. The heaviest overall volumes occur on this segment during the month of August. Estimated 1988 peak month peak hour volumes are illustrated below:

Monthly Peak Hour Volume
Highway 99 and Highway 20

	Left turn	Through	Right Turns
Northbound 99	288	507	457
Southbound 99	172	316	34
Eastbound 20	109	760	255
Westbound 20	430	790	153

On November 15, 1988 a traffic count was conducted for the Highway 99/ Highway 20 intersection. The following volumes show the peak hour count information and the critical movement analysis. This count is fairly representative of the average peak month peak hour.

The following graph illustrates the projected increases to critical movement volumes for the Highway 20 intersections to the year 2010 for the peak month peak hour and for a representative off peak month peak hour. This graph shows how the intersection is currently operating during the peak month peak hour.

This intersection is projected to experience the problem of demand exceeding capacity by the year 2000. However, for Highway 99, this projection does not include additional traffic or mitigation measures caused by the new Yuba Plaza Mall.

Sutter-6 (P.M. 15.6-17.0), and Yuba-7 (PM 0.0-3.4)

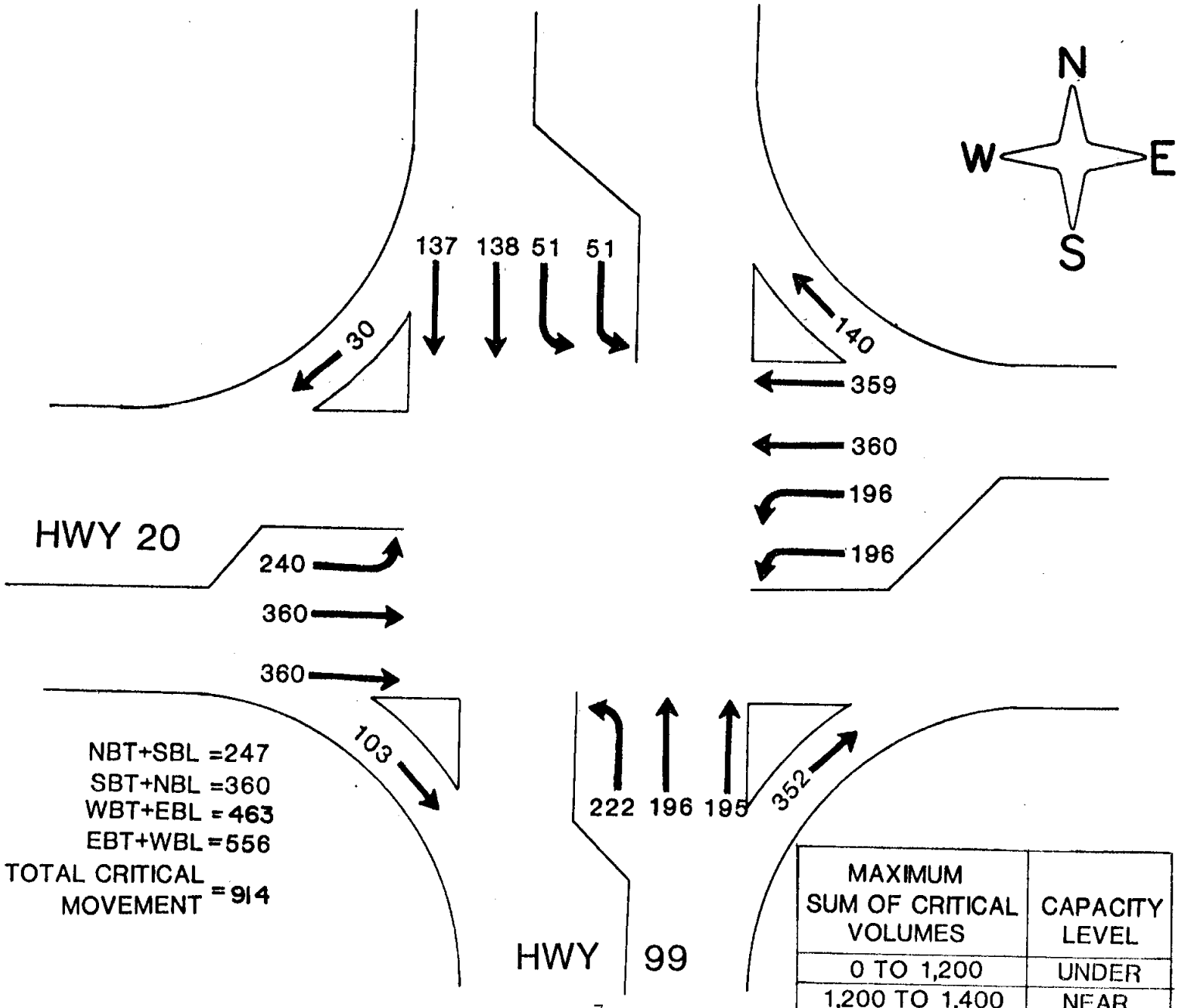
In these segments the route travels eastward through the Yuba City/Marysville urbanized area. The facility is a four-lane conventional highway through the city of Yuba City, but is being restriped to six lanes between Route 99 and Plumas Street. The route continues across the 10th Street Bridge into Yuba County and through Marysville as a six-lane, four-lane conventional and two-lane expressway facility. For six blocks in the City of Marysville, Highway 20 and Highway 70 share the same alignment. This shared alignment results in increased traffic volumes for this section.

In Segment 6 the route becomes the major business/shopping street for Yuba City, lined with parking lots, fast food establishments, banks, supermarkets, gas stations, hardware and clothing stores. There is severe congestion due to the numerous turning movements into and out of the commercial establishments.

Another major factor affecting traffic flow is that Route 20 is one of only two crossings of the Feather River that separates the twin cities of Yuba City and Marysville. The other crossing is the 5th Street Bridge, which is a narrow two-lane structure with limited capacity that carries 30,000 vehicles per day of the total 75,000 inter-urban ADT crossing the river. If either the Route 20 or 5th Street bridges fail due to a minor traffic accident, the entire system drops to LOS F.

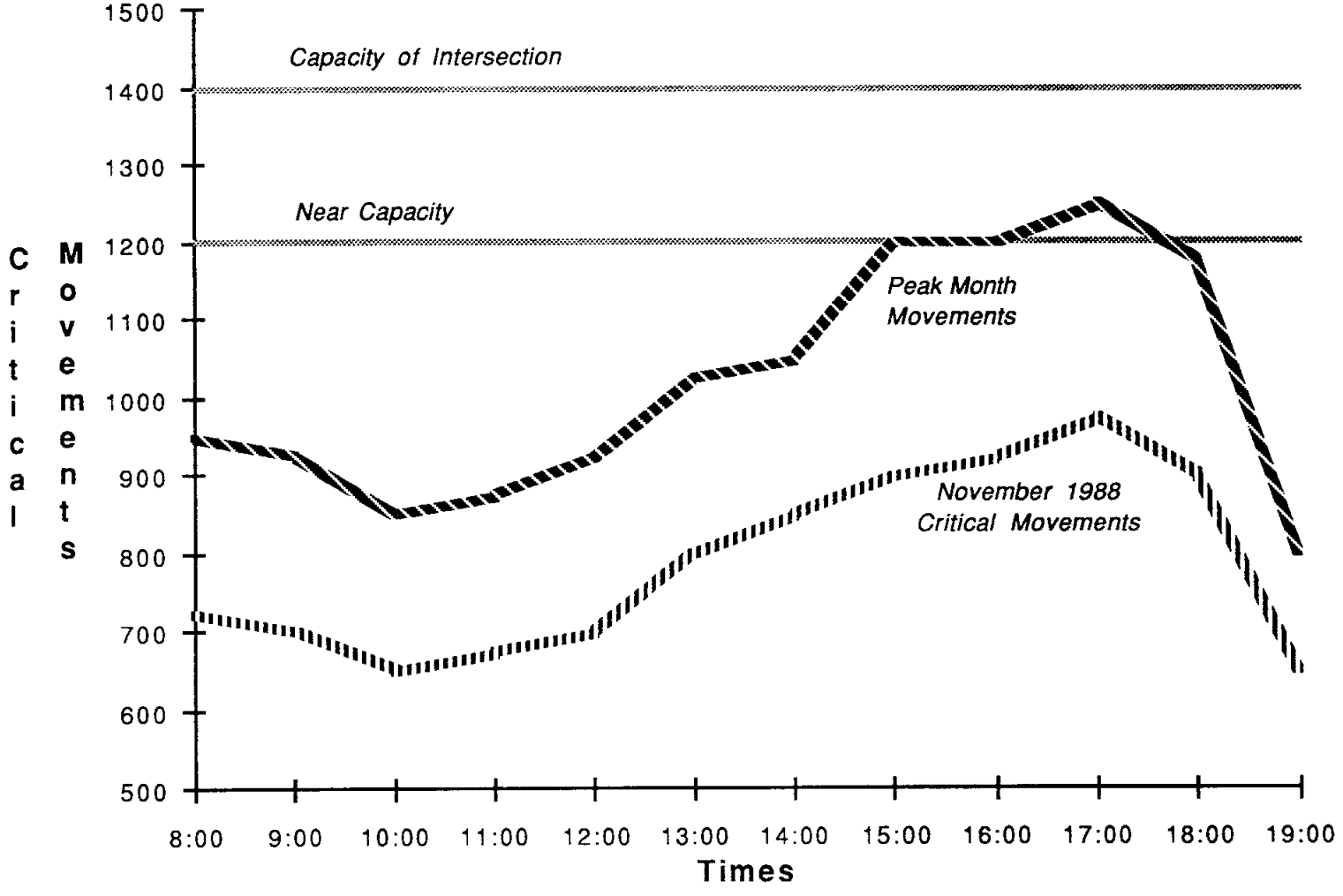
CRITICAL MOVEMENT ANALYSIS
HWY 99 and HWY 20 INTERSECTION

DIRECTION	LEFT TURN	THROUGH	RIGHT TURN
NORTH BOUND	222	391	352
SOUTH BOUND	102	275	30
EAST BOUND	103	721	240
WEST BOUND	392	719	140



MAXIMUM SUM OF CRITICAL VOLUMES	CAPACITY LEVEL
0 TO 1,200	UNDER
1,200 TO 1,400	NEAR
1,400	OVER

Intersection Analysis
Highways 20 & 99



Sutter-6 & Yuba-7 Land Use

The land uses along these two segments include shopping centers, banks, service stations, fast food restaurants, as well as residential past Post Mile 18 on segment Yuba 7. The route is part of the main business district for Yuba City and Marysville. These segments are for the most part built out. The exception is at Highway 99 and 20 where a new regional shopping mall is under construction. The rest of the segments' land use will remain constant; the business type may change but density will remain the same over the 20-year period. These segments are functioning as a principal arterial for the two cities.

Sutter-6 & Yuba-7 Level of Service

	Sutter 6			Yuba 7		
	1987	2000	2010	1987	2000	2010
LOS	E	F	F	F	F	F
Concept LOS	E	E	E	E	E	E
AADT	41,000	52,750	61,750	43,000	50,850	56,850

Yuba-8 (P.M. 3.4-21.7)

The nature of the route in this segment changes to rural valley and Sierra foothills going eastward from Marysville. The route is two-lane expressway for the first 1.5 miles and two-lane conventional for the remainder. In several places, the roadway is less than 24-feet wide and lacks paved shoulders. As the route traverses the Sierra foothills, the alignment becomes winding with steep grades and restricted sight distances.

At P.M. 21.2 Hammonton-Smartsville Road connects with Highway 20. Hammonton-Smartsville Road acts as a bypass for through traffic traveling between Nevada City and the urbanized area south of Marysville and Beale Air Force Base. Traffic using Hammonton-Smartsville Road avoids all but three miles of the most substandard portion of Route 20, from the base of Parks Bar Bridge across the Yuba River (P.M. 18.0) east through the end of this segment and 2 1/2 miles further, into Nevada County. This portion of Route 20 has steep grades, poor sight distances, sharp curves, and crosses the Yuba River on a 21-foot wide structure. Replacement of the Parks Bar Bridge is programmed for construction in the 1990-91 fiscal year.

Yuba-8 Land Use

This segment is agricultural, from orchards and rice fields in the valley to grazing land in the Sierra foothills. There are some homes widely dispersed along the route. The development is expected primarily to be residential (50 to 70 home starts a year) and will mostly occur between Marysville Road and the City of Marysville. The growth rate is expected to be constant at 2 percent over the next 20 years. Loma Rica and Browns Valley are where the majority of this growth will take place. There are

some residential developments proposed in Smartville, but it is questionable if these developments will ever occur.

Yuba-8 Level of Service

	1987	2000	2010
LOS	D	D	E
Concept LOS	D	D	D
AADT	8,500	12,150	14,950

Nevada-9 (P.M. 0.0-R12.2)

This portion of the route continues into the Sierra foothills. Most of this segment is improved to two-lane expressway standards. However, there is a 2.7 mile substandard portion at the beginning of the segment. Roadway widths are 20- to 30-feet, with winding alignment and steep grades. This segment ends at the junction of Highway 49 in Grass Valley.

Nevada-9 Land Use

This segment is rolling foothills used primarily as grazing land. There are some homes scattered along this segment. The major development for this segment occurs at Lake Wildwood, a residential development of about 1,300 homes with a total build out of 1,750 homes within the 20-year period. Penn Valley is also sustaining some growth. There is a proposed industrial park development in Penn Valley near Pleasant Valley Road. The City of Grass Valley is considering a new connection east of Ponderosa Way to provide North/South access to Highway 20. The segment's main constraints to growth in Nevada County are water and sewer services. If these constraints are overcome, the growth would be far more rapid.

Level of Service

	Nevada 9 County Line (P.M. 0.0)-Penn Valley Rd. (P.M. 6.6)			Penn Valley Rd. P.M. 6.6 - Hwy. 49 P.M. 12.3		
	1987	2000	2010	1987	2000	2010
LOS	D	F	F	A	B	C
Concept LOS	D	D	D	D	D	D
AADT	7,700	11,000	13,550	9,900	15,700	20,150

Nevada-10 (P.M. 12.3/17.4)

In this segment, the route changes to a four-lane freeway. Route 20 passes through the foothill/mountain communities of Grass Valley/Nevada City, with a combined population of about 12,000 today. Routes 49 and 20 have a common alignment in this segment.

Nevada-10 Land Use

This segment is expected to grow steadily over the next 20 years. The city of Grass Valley is growing while Nevada City is not expanding as rapidly. The area between Grass Valley and Nevada City is likely to be developed; the main problem being steep terrain. There is no growth on Route 20 east of Nevada City. The main constraints to growth in Nevada City are water and sewer facilities. Sierra College is building an extension campus on 110 acres west of Routes 20/49 near the proposed Dorsey interchange. A business park is going in east of 20/49 north of proposed Dorsey interchange and is expected to provide 2,000 jobs in the 20-year time frame. Grass Valley has about 20-30 home starts and up to 50 apartment units per year. Development may occur at the Star parcel south of Highway 20 and west of Highway 49 near K Mart.

All the development that will occur in Grass Valley and Nevada City will impact this segment because Highway 20 and Highway 49 are the major arterials for the two cities. Residential growth in rural areas adjacent to Grass Valley and Nevada City has significant impacts on Segment 10 through Grass Valley and Nevada City due to lack of other highway facilities.

The lack of railway service to any point in western Nevada County impacts truck travel to and through Segment 10 as all goods, services, and forest product movement is dependent upon highway access.

Nevada-10 Level of Service

	1987	2000	2010
LOS	C	F	F
Concept LOS	E	E	E
AADT	32,500	51,500	66,150

Nevada-11 (P.M. 17.4/46.1/Placer 0.0-2.6)

The terrain along this segment east of Nevada City is rural and mountainous. The facility is two-lane conventional except for a short expressway section joining the freeway to the west. Most of the roadway width is between 22 and 28 feet.

This segment joins with I-80 at Emigrant Gap and is used as a short cut between the Sacramento Valley and the Tahoe and Reno areas.

Nevada-11 Land Use

This segment is expected to remain mountain rural over the next 20 years.

Nevada-11 Level of Service

	1987	2000	2010
LOS	D	E	E
Concept LOS	D	D	D
AADT	4,200	5,900	7,200

EXISTING AND FUTURE DEFICIENCIES

Colusa-1

The lane and shoulder widths for portions of this segment are not up to statewide standards. There are insufficient passing opportunities due to sight distance limitations on parts of this segment in the coastal foothills, and there are insufficient areas signed for turnouts.

Colusa-2

Even though it is not projected to fall below the concept Level of Service by the year 2010, this segment functions as the main street through the Colusa business district, and will continue to experience congestion and operational problems.

Colusa-3 and Sutter-4

The lane and shoulder widths on portions of these segments are not up to statewide standards. In segment Sutter 4, the causeway over the Sutter Bypass is one mile in length, 23 feet wide, and curvilinear with poor sight distance.

This narrow causeway is a major choke point on this segment and for the route between Highway 99 and Interstate 5.

Sutter-5

The Route 20/99 intersection is currently operating adequately but operating conditions are projected to deteriorate by the year 2000. The intersection will be experiencing congestion and demand will exceed capacity in the P.M. peak hours. This deterioration in traffic operation may occur more rapidly when the mall at Yuba Plaza is completed.

Sutter-6 and Yuba-7

The following table shows Level of Service and Demand/Capacity ratios for these segments:

	1987	2000	2010
Sutter-6			
LOS	E	F	F
D/C*	.85	1.05	1.17
Yuba-7			
LOS	F	F	F
D/C*	1.01	1.19	1.27

* Volume/Capacity ratios exceeding 1.00 are considered to represent demand.

These segments are principal arterials for Yuba City and Marysville. They currently experience a high level of congestion, which is expected to increase with time. The vast majority of intersections are signalized. Both segments are completely deficient, especially when either the Route 20 or 5th Street bridges fail due to a minor traffic accident.

Yuba-8

The lane and shoulder widths for portions of this segment are not up to statewide standards. Entering the Sierra foothills on this segment, sight distance becomes restricted and there are few passing opportunities. The worst section is from the Parks Bar Bridge P.M. 18.2 to the Nevada County line. This segment is not expected to fall below concept LOS D until the year 2010.

The major congestion along this segment is expected to occur between P.M. 3.4 and Marysville Road P.M. 13.2 due to increased growth and development. Insufficient areas are signed for turnouts.

Nevada-9

The following tables show the different Levels of Service occurring on this segment:

Nevada 9a (P.M. 0.0-6.6) Nevada County line to Penn Valley Road

	1987	2000	2010
LOS	D	E	E
V/C	.49	.69	.84

Nevada 9b (P.M. R6.6-R12.3) Penn Valley Road to Grass Valley

	1987	2000	2010
LOS	A	B	C
V/C	.39	.52	.69

This segment is expected to fall below the concept LOS D by the year 2000. This deficiency will occur in segment 9a. Between P.M. 0.0 and 2.9, lane and shoulder widths are not up to statewide standards. Sight distances and passing opportunities within this area are also restricted.

The portion of the segment from Penn Valley Road P.M. R6.6 to Highway 49 P.M. R12.3 is not expected to have any deficiencies by the year 2010. Continuing to restrict access to this portion of this route is essential to maintain an acceptable LOS. Insufficient areas are signed for turnouts.

Nevada-10

This segment is projected to go from LOS C to LOS F by the year 2000. The segment has a D/C of 1.03 and by the year 2010 the D/C ratio will be 1.21. This segment will become deficient as there are insufficient lanes to handle the demand at concept LOS of E. The interchanges on this segment are also not up to current statewide standards. At the Highway 49 and 20 east junction (P.M. R17.4) the accident rate is higher than the statewide average.

Nevada-11

Portions of this segment's lane and shoulder widths are not currently up to statewide standards. There are also insufficient passing opportunities on this segment. This segment's LOS is expected to drop below the concept LOS of D to LOS E by the year 2000 and will remain there at least until the year 2010. Insufficient areas are signed for turnouts.

IMPROVEMENTS NECESSARY TO ACHIEVE THE ROUTE CONCEPT

Priority improvements are asterisked in the following discussion.

Colusa-1

Lane and shoulder widths should be brought up to statewide standards. Passing lanes should be added between P.M. 1.3-13.9. Sign turn out areas.

Colusa-2

The town of Colusa should be bypassed. This bypass should be south of town, probably adjacent to the Southern Pacific Railroad right of way.

* Colusa-3 and Sutter-4

Lane and shoulder width for these segments should be brought up to statewide standards. *The Sutter Causeway over the Sutter Bypass should be replaced or rehabilitated and brought up to statewide standards for lane and shoulder width.

Sutter-5

An interchange should be constructed at the junction of Highways 99 and 20 by the year 2000. Currently, an interchange proposal has been looked at for this intersection and it is feasible. The State currently owns all the land required

for this interchange. An interchange would give continuous "green time" for through traffic on Highway 99 as well as Highway 20. This project has significant benefits in terms of capacity for both Highways 20 and 99.

Caltrans should carefully evaluate its access control policy along this segment of Route 20. If granting access has an adverse affect on the LOS or will create operational problems, access may need to be restricted.

* Sutter-6 and Yuba-7

Through Yuba City and Marysville, further safety and operational improvements should be provided wherever possible. Eventually, the urbanized area of Yuba City and Marysville needs to be bypassed. This bypass should be looked at in conjunction with a 3rd Feather River Crossing or possible Marysville bypass. At a minimum, a feasibility study should be done to address this issue. The interchange at the junction of Highway 20 and 99 is a stand alone project and should be considered whether or not a bypass is constructed.

Yuba-8

This segment should be brought up to two-lane expressway standards. Passing lanes should be added east of Marysville Road (P.M. 13.2), particularly east of the Parks Bar Bridge (P.M. 18.2). Signed turn out areas should also be constructed.

* Nevada-9

*Lane and shoulder widths need to be brought up to statewide standards. Between P.M. 0.0-2.9 a passing lane should also be added. Access should remain restricted on the expressway section of this segment between Penn Valley and the junction with Highway 49 (P.M. R6.6-12.3). Signed turn out areas should also be constructed.

Nevada-10

Due to the facility design, alignment, position and design of interchanges and historical significance of the property adjacent to this route, this segment should be classified as "maintenance only". The Highway 20/49 East (P.M. R17.4) junction has a higher than expected accident rate. In five years the operational performance of this intersection should be reviewed to see if any solutions are then feasible.

Nevada-11

Lane and shoulder widths need to be brought up to statewide standards. Passing lanes need to be added and signed turn out areas should be provided.

LAW ENFORCEMENT AND DRIVER EDUCATION

Poor sight distance, steep grades, and inadequate passing opportunities on much of Route 20 contribute to traffic congestion and slow-moving traffic and tend to exacerbate the problem of the errant/reckless motorist. This highlights the need to widen and sign and stripe more areas for turnouts and for the California Highway patrol to aggressively enforce Section 21656 of the California Vehicle Code.

It is important for slow moving drivers to pull off the road when they are causing delays so the system can work more efficiently and safely. There is also a need for driver education programs to address this issue.

ULTIMATE TRANSPORTATION CORRIDOR

Over a 20- to 50- year period, this route should ultimately be a four-lane expressway bypassing all urbanized areas with restricted access. Sufficient rights of way should be included to alleviate expansion problems.

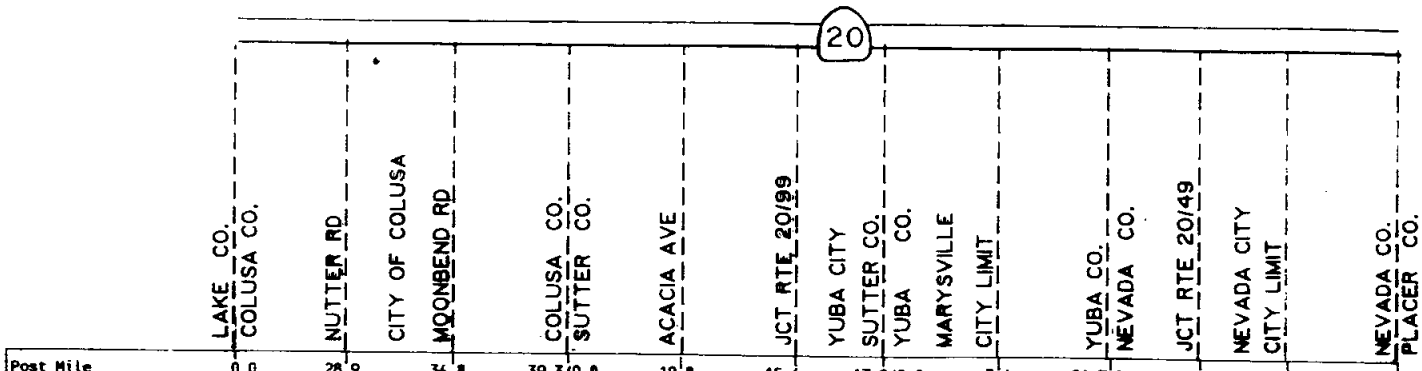
COORDINATION WITH ADJOINING DISTRICTS

Districts 1 and 3 agree that a 2-lane conventional highway with passing lanes operating at LOS D is a realistic 20-year concept facility and level of service for Highway 20 where it transitions between the two districts.

COMMENTS FROM OTHER AGENCIES

The draft Route Concept Report was circulated to cities, counties and regional transportation planning agencies along the Route 20 corridor.

Comments were received from the Sacramento Area Council of Governments (SACOG) and the City of Yuba City regarding level of service concerns within the City of Yuba City. A meeting was held with the City regarding their concerns.



Post Mile	0.0	28.9	34.8	39.3/0.0	10.8	15.6	17.0/0.0	3.4	21.7/0.0	12.3	17.4	46.1
County/Segment	1-COL	2-COL	3-COL	4-SUT	5-SUT	6-SUT	7-YUB	8-YUB	9-NEV	10-NEV	11-NEV	
Present Facility (Post STIP)	2C	2C/4C	2C/2E	2C	4E/4C	4C/6C	4C/6C/2C	2E/2C	2C/2E	4F	2C	
Concept Facility (20-Year Period)	2C	2E	2C/2E	2C	4E/4C	4C/6C	4C/6C/2C	2E/2C	2E	4F	2C	
LOS 1987 (avg.)	C	D	C	C	C	E	F	D	D	C	D	
LOS 2000 (avg.)	C	E	C	C	D	F	F	D	E	F	E	
LOS 2010 (avg.)	D	E	C	C	E	F	F	E	E	F	E	
Concept LOS 20 Yr	D	E	D	D	E	E	E	D	D	E	D	
AADT 1987	5800	10300	4800	5700	21800	41000	43000	8500	7700	32500	4200	
AADT 2000	7100	12450	6300	6800	29000	52750	50850	12150	11000	51500	5900	
AADT 2010	8050	14100	7450	7650	35850	61750	56850	14950	13550	66150	7200	
% Traffic Growth/Yr	1.7%	1.7%	2.4%	1.5%	2.9%	2.2%	1.4%	3.3%	3.3%	4.5%	3.1%	
Post STIP Capacity* * Includes PCE's	2500	1860	2370	2370	4260	4260	4660	2370	2100	7520	2100	
Peak Period v/c 1987	0.29	0.52	0.21	0.28	0.52	0.85	1.01	0.47	0.49	0.71	0.37	
Peak Period v/c 2000	0.35	0.62	0.28	0.33	0.76	1.05	1.19	0.63	0.69	1.03	0.51	
Peak Period v/c 2010	0.40	0.70	0.32	0.37	0.88	1.17	1.27	0.76	0.84	1.21	0.61	
LOS below Concept (Yr)	N/A	N/A	N/A	N/A	2000	Currently	2010	2000	2000	2000	N/A	
Peak Hourly Volume 1987	690	1150	480	600	2150	4100	4300	930	840	3550	590	
Peak Hourly Volume 2000	840	1390	630	720	3150	5280	5085	1320	1200	5610	830	
Peak Hourly Volume 2010	960	1580	750	810	3800	6180	5685	1630	1480	7218	1010	
Peak Hr. Dir. Split	51	56	56	65	67	52	58	60	65	51	54	
Peak Hr. Truck % 1987	7%*	7%	7%	7%	5%	3%	3%	9%	9%	6%	5%	
Daily Truck % 1987	14%	7%	7%	10%	8%	5%	6%	10%	9%	9%	9%	
Total Acc Rate vs St.Avg.	0.82	1.28	0.76	0.78	1.30	1.76	1.46	0.58	1.13	1.63	1.18	
F+I Acc Rate vs St. Avg	0.85	1.04	0.37	0.94	1.27	1.7	1.05	0.57	1.16	1.48	1.29	
Land Use	Agricultural	Small Urban	Agricultural	Agricultural	Agricultural Urban	Urban	Urban	Agricultural Grazing	Grazing	Urbanized	Forrest	
Terrain	Rolling	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Rolling	Rolling	Mountainous	

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